



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,587	02/27/2004	Young C. Yoon	4740-240	7781
24112	7590	12/12/2007		
COATS & BENNETT, PLLC 1400 Crescent Green, Suite 300 Cary, NC 27518			EXAMINER BHATTACHARYA, SAM	
			ART UNIT	PAPER NUMBER
			2617	
			MAIL DATE	DELIVERY MODE
			12/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/789,587	Applicant(s) YOON ET AL.	
	Examiner Sam Bhattacharya	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-58 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over D'Amico et al. (US 5,606,729) in view of Voyer (US 6,952,459).

Regarding claims 1 and 49, D'Amico discloses a system and method of measuring noise at one or more base stations 116 in a mobile communication system (see FIG. 1), including defining a periodic silence period for at least one carrier that is independent of reverse link channel frame boundaries; transmitting silence parameters that define the periodic silence period to mobile stations communicating with the base stations. See col. 1, line 55 – col. 2, line 12.

D'Amico fails to disclose that the mobile stations 122 stop transmitting during the periodic silence period; and measuring the noise at each base station during the periodic silence periods. However, Voyer discloses these features at col. 9, lines 40-45. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify D'Amico by incorporating these teachings of Voyer for the purpose of ensuring that an accurate measurement of the noise is obtained.

Regarding claims 2, D'Amico discloses that the silence parameters include a frequency parameter that indicates the frequency of the silence period, a duration parameter that indicates

the duration of the silence period, and a time reference parameter that provides an absolute time reference for synchronizing silence periods for non-synchronous reverse link channels. See col. 6, lines 1-19.

Regarding claims 3, D'Amico discloses that the periodic silence period encompasses portions of at least two consecutive reverse link frames. See col. 6, lines 27-42.

Regarding claims 4, D'Amico discloses that measuring the noise at each base station during the periodic silence periods includes measuring the power of the noise during the periodic silence period. See col. 5, lines 2-17.

Regarding claims 5, D'Amico discloses that the noise includes adjacent carrier interference. See col. 7, lines 10-25.

Regarding claims 6, D'Amico discloses that the mobile communication system is a multi-carrier system and wherein the periodic silence period is defined for at least one carrier. See col. 5, lines 55-67.

Regarding claims 7, D'Amico discloses including assigning a first group of mobile stations to a first carrier with a periodic silence period; and assigning a second group of mobile stations to a second carrier without a periodic silence period. See col. 8, lines 7-24.

Regarding claims 8, D'Amico discloses that the periodic silence period is defined for a plurality of carriers. See col. 8, lines 25-39.

Regarding claims 9, D'Amico discloses that the periodic silence period is synchronized for two or more carriers. See col. 1, line 55 – col. 2, line 12.

Regarding claims 10, D'Amico discloses that the periodic silence period is defined for all carriers. See col. 8, lines 25-39.

Regarding claims 11, D'Amico discloses that the periodic silence period is synchronized for all carriers. See col. 1, line 55 – col. 2, line 12.

Regarding claims 12, D'Amico discloses including causing legacy mobile stations that do not recognize silence periods to stop transmitting on the reverse link during a silence period. See col. 9, lines 10-27.

Regarding claims 13 and 53, D'Amico discloses that causing legacy mobile stations that do not recognize silence periods to stop transmitting on the reverse link during a silence period includes directing the legacy mobile stations to a dummy carrier during the silence period. See col. 9, lines 10-37.

Regarding claims 14 and 54, D'Amico discloses that causing legacy mobile stations that do not recognize silence periods to stop transmitting on the reverse link during a silence period includes directing the legacy mobile stations to perform a candidate frequency search on a different carrier during the silence period. See col. 9, lines 39-52.

Regarding claims 15 and 55, D'Amico discloses that the duration of the silence period is at least one frame. See col. 8, lines 7-24.

Regarding claims 16, D'Amico discloses that the duration of the silence period is less than one frame. See col. 8, lines 25-39.

Regarding claims 17, D'Amico discloses including suspending transmission of power control commands on a forward link power control channel during the silence period. See col. 1, line 55 – col. 2, line 12.

Claims 18-34 correspond to claims 1-17, respectively, and are therefore rejected for the same reasons as those claims.

Claims 35-41 correspond to claims 1-3 and 15-17, respectively, and are therefore rejected for the same reasons as those claims.

Claims 42-48 correspond to claims 1, 3-6, 15 and 16, respectively, and are therefore rejected for the same reasons as those claims.

Regarding claims 50 and 56, D'Amico discloses that controlling a transmitter responsive to the determination whether a frame overlaps a silence period includes transmitting a first part of the frame; suspending transmission of the frame during the silence period, and transmitting a second part of the frame following the silence period. See col. 9, lines 10-24.

Regarding claims 51 and 57, D'Amico discloses that controlling a transmitter responsive to the determination whether a frame overlaps a silence period includes delaying transmission of a frame if the frame overlaps a silence period, and transmitting the delayed frame following the silence period. See col. 12, lines 14-33.

Regarding claims 52 and 58, D'Amico discloses that controlling a transmitter responsive to the determination whether a frame overlaps a silence period includes erasing a frame if the frame overlaps a silence period. See col. 12, lines 34-56.

### ***Response to Arguments***

3. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Bhattacharya whose telephone number is (571) 272-7917. The examiner can normally be reached on Weekdays, 9-6, with first Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on (571) 272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



sb